

AARP Hawai`i
National Day of Service, May 11, 2006

**Walk Audit Report:
Making Pedestrian Safety and Walkability
A Top Priority**



A report prepared by:
The Hawai`i State Dept. of Health, Injury Prevention and Control Section, August 2006
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**HAWAII STATE
DEPARTMENT
OF HEALTH**

AARP Hawaii

This report is dedicated
to the community volunteers
who participated in the May 11th walk audit,
and to all pedestrians.

“Walking is a basic human activity, and almost everyone is a pedestrian at one time or another... Whether building new infrastructure or renovating existing facilities, it should be assumed that people will walk, and plans should be made to accommodate pedestrians.”¹

¹ Zegeer C.V., J. Stutts, et al., NCHRP Report 500, Vol. 10: A guide for Reducing Collisions Involving Pedestrians, Transportation Research Board, Washington, D.C., 2004.

Introduction

On May 11, 2006, AARP's National Day of Service efforts in Hawai'i drew over 250 community volunteers who conducted walk audits at 50 intersections around the state. See Figure 1 for locations. AARP's invitation to participate generated responses from civic clubs, businesses, legislators and residents of all ages, and reflected the growing public concern and media attention directed at the significant number of pedestrian injuries and deaths. Each year, an average of 32 pedestrians are killed on Hawaii's roads, and more than 600 others require medical treatment for non-fatal injuries. Hawai'i has the 11th highest pedestrian fatality rate in the country, and the highest pedestrian fatality rate among senior residents (age 65 years and older).²

In the 2006 guide on "How to Develop a Pedestrian Safety Action Plan", the Highway Safety Research Center, University of North Carolina noted that, "Pedestrian safety and mobility must be elevated to a top priority for the situation to improve substantially." Making pedestrian safety a priority increases the safety of our roadways for all users, and encourages walking for transportation purposes and for physical activity with proven life-saving health benefits.³ Creating safe environments for pedestrians and those using other modes of travel, i.e., transit riders and bicyclists, also has the potential to support sustainable growth.

AARP's efforts to organize community input is an important first step in identifying what is needed to improve safety and mobility for people of all ages. This kind of citizen participation is being used in many states to develop the community and government partnership needed to create safe environments for pedestrians and all road users.

Note: The information presented in this report is based on data collected on a single day. The collection was done by volunteers who had no formal training in assessing "walkability." The data collection process was therefore designed to be simple and accessible. (Please see the Appendix for the data collection form.) However, no attempt was made by the authors to verify the veracity of the data collected; they were summarized and presented to reflect the original observations of the auditors. Implementation of any location-specific recommendations should be undertaken only after due consideration by experienced traffic engineers, and in collaboration with local community organizations, residents, and businesses.

² The latter comparisons excludes 7 states with too few senior pedestrian deaths for reliable rate calculations.

³ Your guide to Physical Activity and Your Heart, US Department of Health and Human Services, National Heart, Lung, and Blood Institute, June 2006.

About this report

There are 5 main sections to this report:

- Summary and Recommendations (pages 5-7)
- Conclusions (page 8)
- Data Report (pages 9-19)
- Location Tables (pages 20-31)
- Appendix (pages 32-37).

The Summary and Recommendations section contains the main findings from the Data Report, along with auditor suggestions for improvements to pedestrian environments. The Data Report provides more detailed analyses of the data collected by auditors on a statewide basis, along with some county-specific analyses. For readers interested in specific locations, the Location Tables are a series of 6 tables that show most of the data elements collected at each of the 50 observation sites, including suggested environmental changes.

The Summary and Recommendations, Data Report and Locations Tables are all arranged by the 5 main topics of data collection: crossing the street, sidewalks, driver behavior, safety, and comfort and appeal. More open-ended suggestions from auditors were summarized in the last of the Locations Tables.

SUMMARY AND RECOMMENDATIONS

Most (32, or 64%) of the 50 audits were conducted on Oahu, 10 (20%) on Maui, 5 (10%) on Hawai'i, and 3 (6%) on Kauai. Observations were collected from 7:00 a.m. to around 3:00 p.m., with generally earlier starting times among teams on the Neighbor Islands.

Crossing the street

The most common issue for crossing the street was not having enough time to cross safely. At more than one-third (37%) of the observed crosswalks, the pedestrian signal did not allow enough time for a person of normal physical abilities to cross, and the signal was too short for pedestrians with limited physical abilities at about half (48%) of the crosswalks. Other commonly mentioned problems included cars in the crosswalks with pedestrians (26% of crosswalks), and unmarked or poorly marked crosswalks (19%).

Suggested Changes for Crosswalks

- Provide pedestrian signals at crosswalks
- Make pedestrian signal automatic (no need to push button)
- Extend signal times to allow enough time for pedestrians to cross
- Add audible and countdown signals
- Maintain walk signals
- Repaint crosswalks / add more visible striping / reflectors
- Add more marked crosswalks
- Make crosswalk signs more visible, possibly add blinking lights
- Widen crosswalks where necessary
- Relocate crosswalks when not in appropriate spots

Sidewalks

Issues were identified for most (59%) of the observed sidewalks, most commonly sidewalks being blocked by poles, signs, vegetation, etc. (26% of sidewalks), or being cracked or broken (20%).

Suggested Changes for Sidewalks

- Remove obstructing utility poles
- Repair uneven sidewalks
- Widen sidewalks
- Add wheelchair ramps

Driver behavior

Drivers at over half the locations were noted to be speeding (58%) or stopping in crosswalks (54%). Both of these driver behaviors were more prevalent at Oahu locations compared to

Neighbor Island locations.

Suggested Changes for Drivers
<ul style="list-style-type: none">• Stop for pedestrians• Be alert in all lanes for pedestrians• Don't stop in crosswalk• Obey traffic signals & stop signs• Drive speed limit• Make eye contact with pedestrians

Safety

Speeding cars were also the most common reason observers reported feeling unsafe (56% of locations), especially at Oahu locations (72%).

Comfort and appeal

Comfort and appeal was rated as “good” or “fair” at most (64%) of the locations, with the lack of benches and places to rest being the most commonly noted issue (26%).

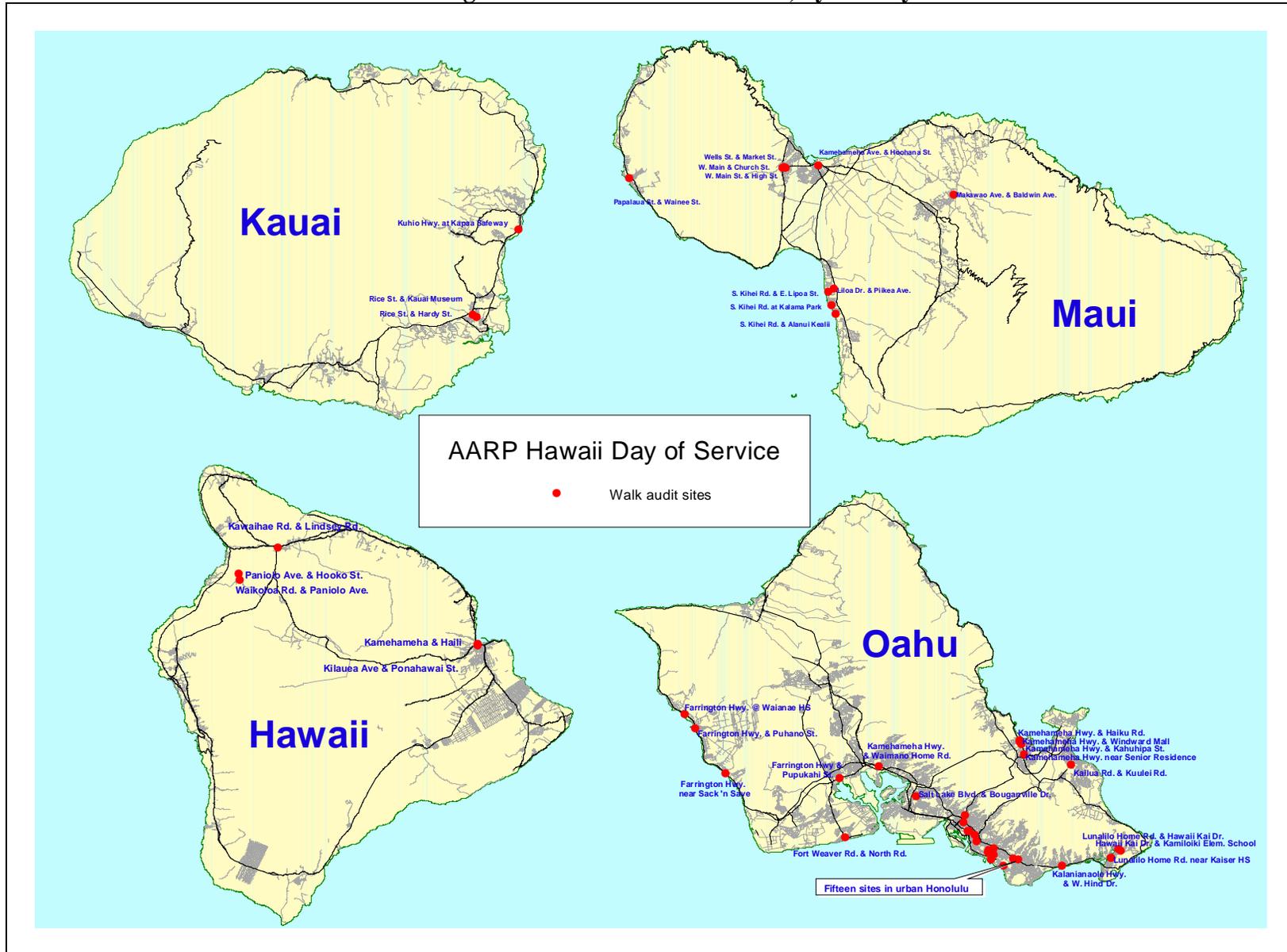
Suggested Changes for Comfort and Appeal
<ul style="list-style-type: none">• Provide benches• Add shade trees• Fill pot holes• Clean streets• Remove graffiti• Remove low hanging branches

Summary score of location issues

The number of issues concerning crossing the street, sidewalks, safety, and comfort and appeal were summed to distinguish the locations with the greatest apparent need for improvements. The areas with the 7 highest scores (highest number of issues) are listed below. (Note: Although these 7 locations are highlighted here, many other locations had nearly comparable scores):

- Farrington Highway at Waianae High School
- Kahuhipa St. and Kawa St. in Kaneohe
- Kamehameha Highway at Senior Residence in Kaneohe
- Haili St. and Kamehameha Avenue in Hilo
- Kuulei Rd. and Kailua Rd.
- Keeaumoku St. and Kapiolani Blvd.
- Ala Moana Blvd. and Hobron Lane in Waikiki

Figure 1. Walk Audit Locations, by County



CONCLUSIONS

The results of the May 11th, 2006, AARP walk audit highlight what we already know – that many of our streets are not safe for pedestrians. The community walk auditors are not experts in traffic safety. However, many of the changes auditors suggested to improve pedestrian safety are reinforced in the safety literature, and they understand that everyone (drivers, motorcyclists, bicyclists and pedestrians) benefits when roadways are made safer for pedestrians.

The next step is for engineers and decision-makers as well as planners, educators, and enforcement officials to follow-up on the information captured from this activity using pedestrian safety solutions that work. A comprehensive approach is recommended that includes engineering, educational and enforcement strategies, known as the “three E’s”.⁴ The “three-E’s are all required to improve pedestrian safety. Individual solutions have limited effectiveness unless they are combined in a complementary manner. As an example, encouraging motorists to stop for pedestrians requires that:

- the roadways are designed to carry motor vehicles at a lower speed,
- police enforcement give warnings and tickets to violating motorists, and
- public education programs are used simultaneously to educate the public about these enforcement efforts and the importance of compliance to the laws.⁵

Moreover, in addition to engineering treatments designed specifically to improve pedestrian safety, policy, and planning solutions are also needed that result in safer overall conditions for pedestrians. Policy and planning are the big picture solutions that include routinely designing and retrofitting streets with pedestrians in mind, and integrating land use to accommodate and encourage walking and bicycling.

The solutions, and the public will to support them, are available to create safe environments in Hawai`i for pedestrians and all road users.

⁴ Gallagher, S.S., T. Christoffel, *Injury Prevention and Public Health: Practical Knowledge, Skills, and Strategies*, Jones and Bartlett Publishers, Massachusetts, 2006.

⁵ Zegeer, C.V., L. Sandt, *How to Develop a Pedestrian Safety Action Plan*, Pedestrian and Bicycle Information Center, Highway Safety Research Center, University of North Carolina, February 2006. Available online at http://www.trb.org/news/blurbs_detail.asp?id=5896

DATA REPORT

Data Limitations and Analysis

Several limitations need to be considered in the interpretation of this report. First, it is not clear how well the observed sites represent pedestrian environments as a whole in the state. Sample size is clearly an issue, especially for the Neighbor Islands. Also, the chosen sites were not randomly sampled, but selected by auditors on perceived pedestrian safety issues. Observations were collected on only a single day, and for a 1- or 2-hour period, and therefore cannot account for the variability in traffic conditions across days of the week and hours of the day. Finally, the auditors were not systematically trained in observation techniques or use of the form, so there is some inter-observer error in the data. This is particularly true for the more subjective data elements, such as overall ratings.

Although geographic comparisons are made in this report, no attempt was made to weight the data for the relative contributions from Oahu and Neighbor Islands areas, due to the small sample size of the latter. The unadjusted data were aggregated to describe pedestrian environments for the “state,” and geographical comparisons are limited to Oahu vs. Neighbor Islands. Statistical differences between Oahu and Neighbor Islands with an associated p-value of <0.05 were described as “significant.” Given the small sample size and crude analytic approaches, these comparisons should be interpreted with caution.

Crossing the Street

A total of 81 crosswalks were audited, and most teams made observations at each of the two streets that comprised an intersection. Most (62, or 76%) of the crosswalks had a signal. The need for a traffic signal was noted for about half (9, or 47%) of the 19 crosswalks that did not have signals. Auditors timed the crossing signal at 42 of the crosswalks, although clear instructions were not given on whether to time the full crossing cycle or only until it started blinking. Reported crossing times were widely distributed, ranging from 4 seconds to a full minute. One-third (14, or 33%) of the signals were timed at 10 seconds or less, including 7 signals on Neighbor Island locations.

According to the auditors, more than one-third (23, or 37%) of the crossing signals did not allow a person of normal physical abilities enough time to cross the street (Figure 2), and one-half (32, or 52%) did not provide enough time for a person of limited physical abilities (Figure 3). These proportions were higher for the 16 crosswalks on Neighbor Islands, where there was not enough time for 56% of pedestrians of normal physical abilities and 63% of those with limited abilities. (These proportions were 30% and 48%, respectively for the 46 crosswalks observed on Oahu.) Figures 4 and 5 show the status of crossing signals at specific Neighbor Island and Oahu locations, respectively.

Auditors noted that the “traffic signal makes pedestrians wait too long before crossing” at 8 (13%) of the crosswalks. There was no difference in this proportion between crosswalks on Oahu and those on Neighbor Islands.

Figure 2. Percent of crosswalk signals with (yellow or lighter shading) and without (red or darker shading) enough time for a person with normal physical abilities to cross.

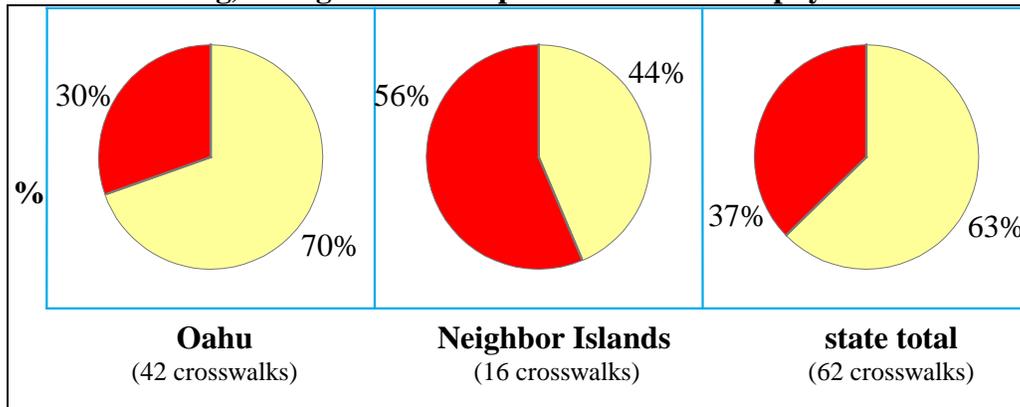
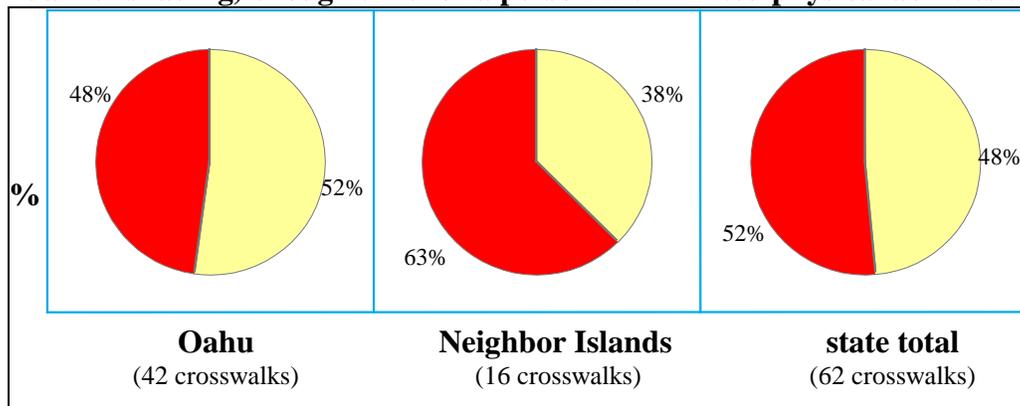


Figure 3. Percent of crosswalk signals with (yellow or lighter shading) and without (red or darker shading) enough time for a person with limited physical abilities to cross.



The most commonly observed problem was cars in the crosswalks with pedestrians, which occurred for about one-fourth (26%) of the 81 audited crosswalks (Table 1). About one-fifth (19%) of the crosswalks were not marked or poorly marked, and this problem was particularly prevalent for Neighbor Island crosswalks (36%). Overall, about half (54%) of the 56 crosswalks observed on Oahu had no problems noted, and about one-third (36%) had 1 or 2 problems. Crosswalks observed on Neighbor Islands were significantly more likely to have had at least 1 problem, compared to those on Oahu (72% vs. 46%). For the state as a whole, most of the crosswalks had no (46%) or 1 (36%) observed problem.

Despite these differences in observed problems, the overall ratings of street crossings were comparable for Oahu and Neighbor Islands (bottom portion of Table 1). Crossings were most commonly rated as “good” or “fair.” More crossings were rated as “poor” (15%) than “excellent” (7%). (Note that ratings were not provided for about one-fifth of the crossings, which limits both the sample size and validity of these ratings.)

Figure 4. Length of crosswalk signal for Neighbor Island walk audit locations

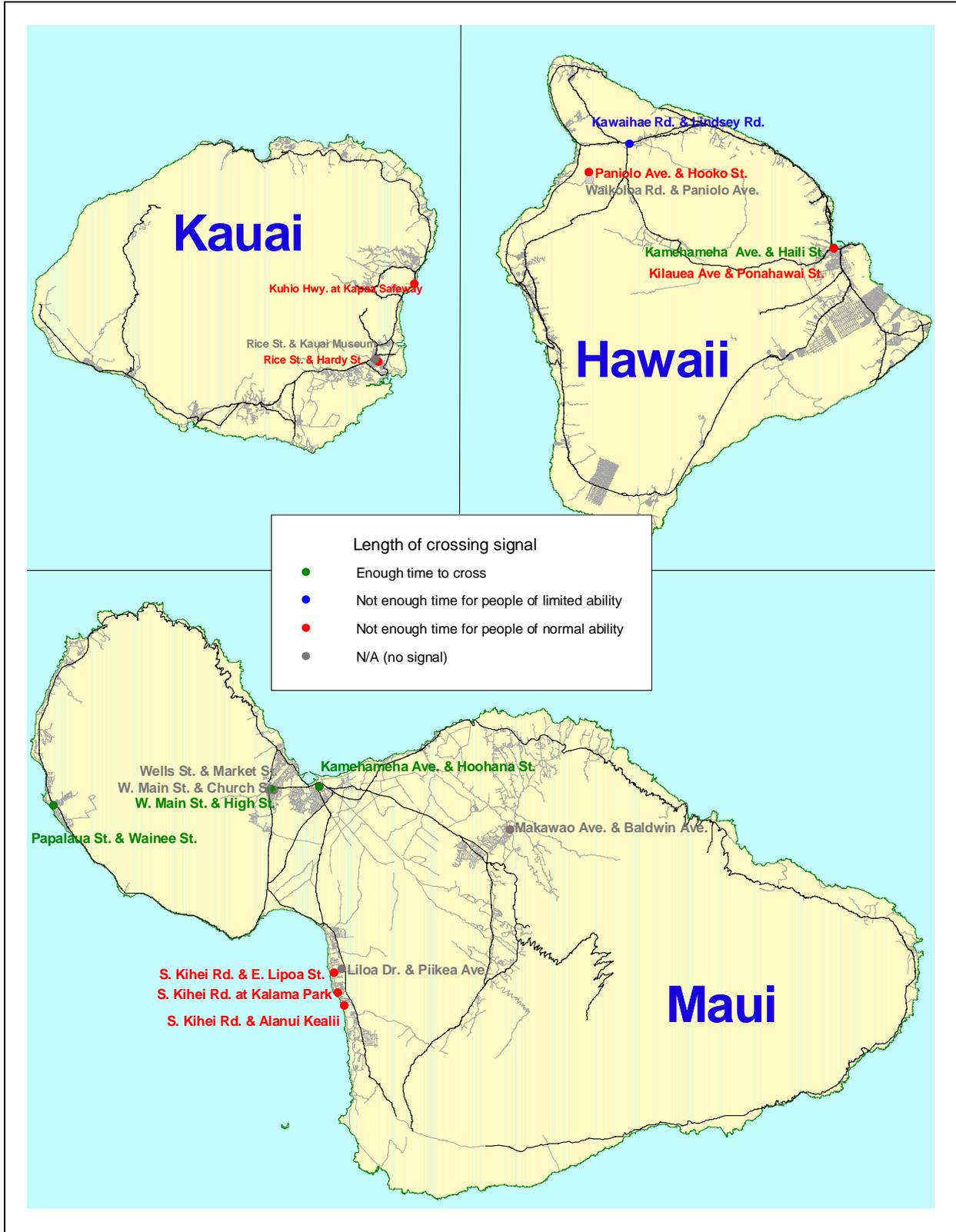


Figure 5. Length of crosswalk signal for Oahu walk audit locations

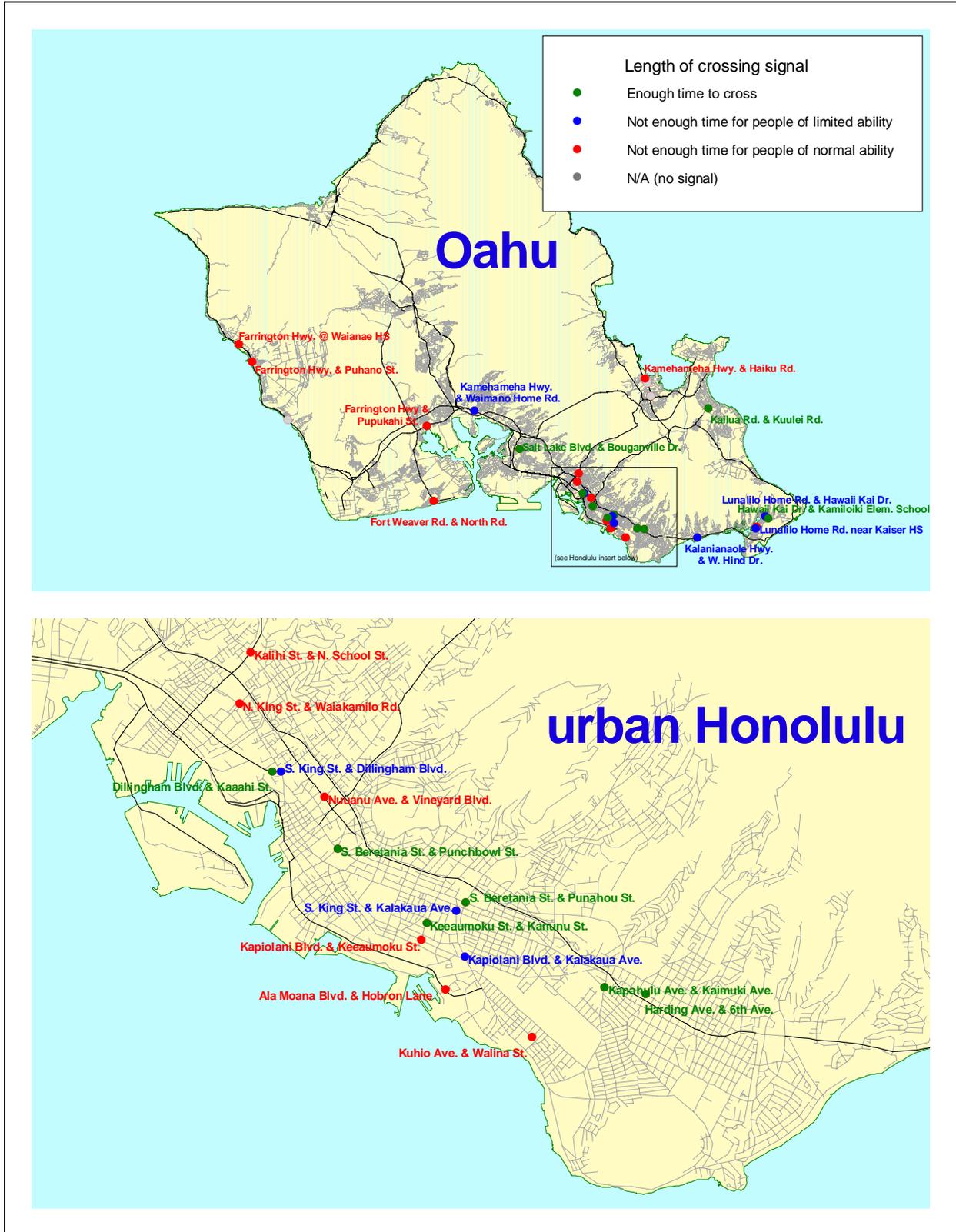


Table 1. Observed problems with crosswalks, by geographic location.

	Oahu	Neighbor Islands	State total
Number of crosswalks observed	56	25	81
<i>Percent with observed problem:</i>			
Have to walk too far (>300') to cross the street	20%	12%	17%
Crosswalk is not marked or is poorly marked	13%	32%	19%
Road is too wide to cross safely	14%	12%	14%
Parked cars/utility poles block view of traffic	13%	16%	14%
Cars are in the crosswalk with pedestrians	21%	36%	26%
<i>Percent of crosswalks with:</i>			
None of the 5 problems listed above	54%	28%	46%
1 or 2 of the 5 problems listed above	36%	60%	43%
3 or 4 of the 5 problems listed above	10%	12%	11%
<i>Overall rating of street crossings:</i>			
excellent	5%	12%	7%
good	30%	24%	28%
fair	27%	28%	27%
poor	14%	16%	15%
not rated	23%	20%	22%

Most (76, or 94%) of the crosswalks were observed for 20 minutes to 1 hour with auditors noting the number and type of people crossing the street. Pedestrians using assistive devices (canes, wheelchairs, walkers) were observed at half (39, or 51%) of the crosswalks. Pedestrians with young children or strollers were nearly as prevalent (37, or 49% of crosswalks). Most (48, or 63%) of the crosswalks were used by bicyclists, 12% by pedestrians with scooters, and 7% by skaters.

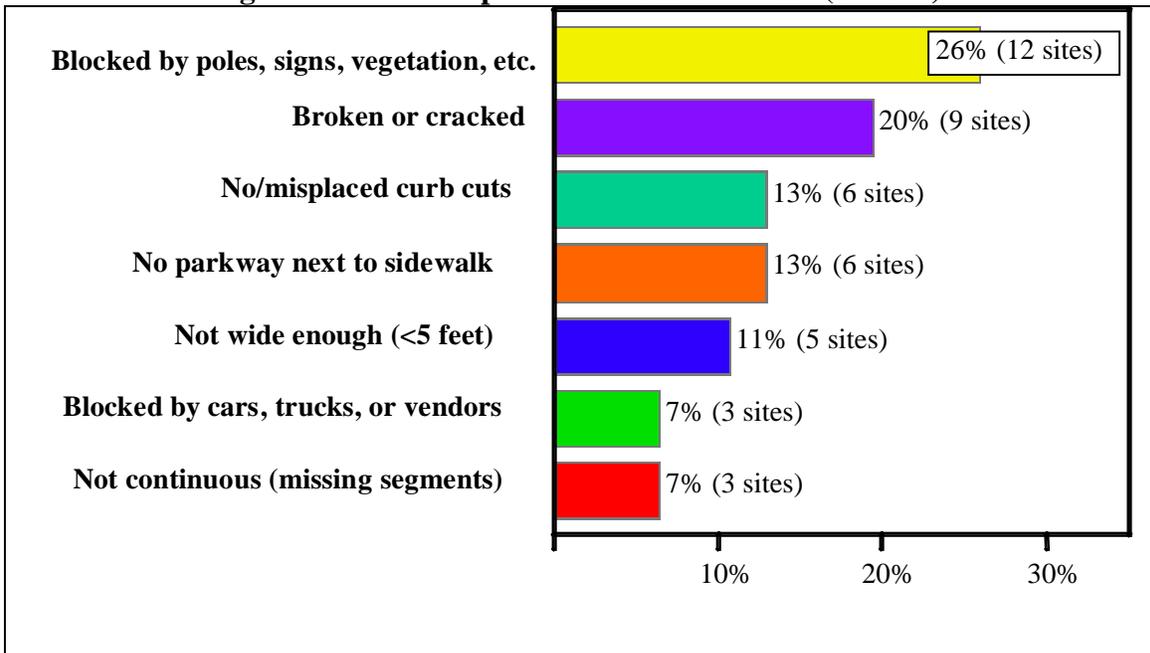
Jaywalkers crossing against the signal were observed at more than half (41, or 54%) of the crosswalks. This proportion was somewhat higher at Oahu crosswalks, compared to those on Neighbor Islands (57% vs. 45%). Overall, an estimated 8% of pedestrians crossed against the signal, with the prevalence varying from 0% to 25%. (The latter statistic was computed from crosswalks at which 30 or more pedestrians were counted.)

Sidewalks

Almost all (46, or 92%) of the areas observed had sidewalks. Three of the 4 areas without sidewalks were on Neighbor Islands: 2 on Maui and 1 on Kauai. Auditors noted problems at most (27, or 59%) of the 46 areas with sidewalks. About one-third (15) of the sidewalks were blocked, usually (12 sites) by signage or vegetation (Figure 6). One-fifth (9 sites) of the sidewalks were described as broken or cracked, and 3 as not continuous.

Overall ratings of sidewalks were available for 76% (35) of the sites. Most of the sidewalk environments were rated as “good” (20 sites). Sidewalks were rated as “excellent” at 5 sites, and “poor” at 3 sites, all of which were on Oahu.

Figure 6. Observed problems with sidewalks (46 sites).

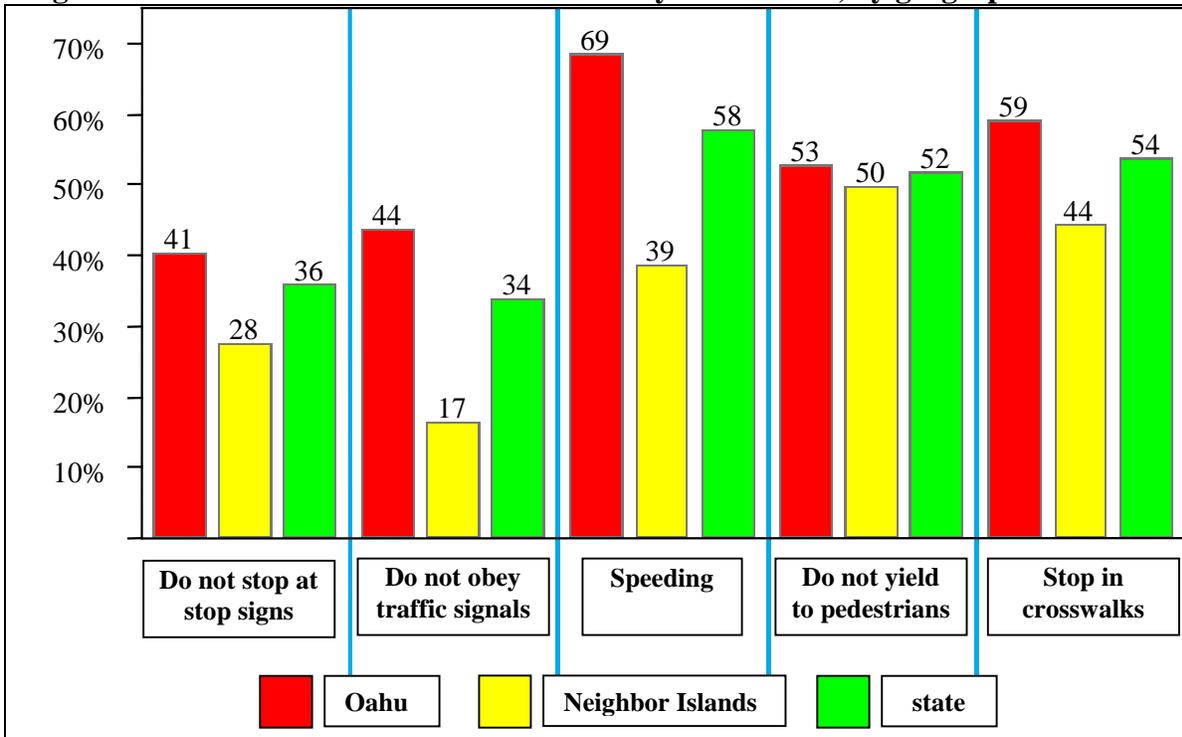


Driver Behavior

Auditors were asked to document 6 separate issues with drivers: not stopping at stop signs, not obeying traffic signals, speeding, not yielding to pedestrians, stopping in crosswalks, and not looking when backing out of driveways. The latter behavior was noted only once among the 50 areas observed. The occurrence of the other 5 behaviors is summarized in Figure 7. The most commonly observed behaviors for the state overall were speeding, not yielding to pedestrians, and stopping in crosswalks. These behaviors were observed at over half of the sites. Speeding was significantly more likely to have been reported from Oahu sites, compared to Neighbor Islands (69% vs. 39%). There was also a significant difference in the proportion of Oahu sites (44%) that reported drivers who did not obey traffic signals, compared to Neighbor Island sites (17%). For the state overall, about one-third of the sites reported drivers who did not stop at stop signs (36%), or who did not obey traffic signals (34%).

Overall driver behavior was rated as “fair” at about half (23, or 46%) of the sites, and “good” at around one-fourth (13, or 26%) of them. Drivers were more likely to be characterized as “poor” (7, or 14%) than “excellent” (2, or 4%). (These calculations include 5 sites, 10% of the total, for which overall driver behavior was not rated.) Drivers at Oahu sites were more likely to be rated as “fair” (53%) rather than “good” (22%), compared to drivers at Neighbor Island sites (33% for both categories).

Figure 7. Adverse driver behaviors observed by audit teams, by geographic location.



Safety

The most common rating of perceived safety for the observed sites was “fair” (19 sites, 38%). Safety was rated as “good” at 11 sites (22%), but “poor” at 5 (10%) others. Only one site in Kahului Maui received a safety rating of “excellent.” (These calculations include the 14 sites, 28%, that were not rated.) The distribution of the safety ratings was similar for both Oahu and Neighbor Island sites.

The reasons most frequently noted for not feeling safe were speeding cars (28 sites, or 56%), and too much traffic (20 sites, 40%). Consistent with the section on observed driver behavior (above), speeding cars were significantly more likely to be noted at Oahu sites (23, or 72%) compared to Neighbor Island sites (5, or 28%).

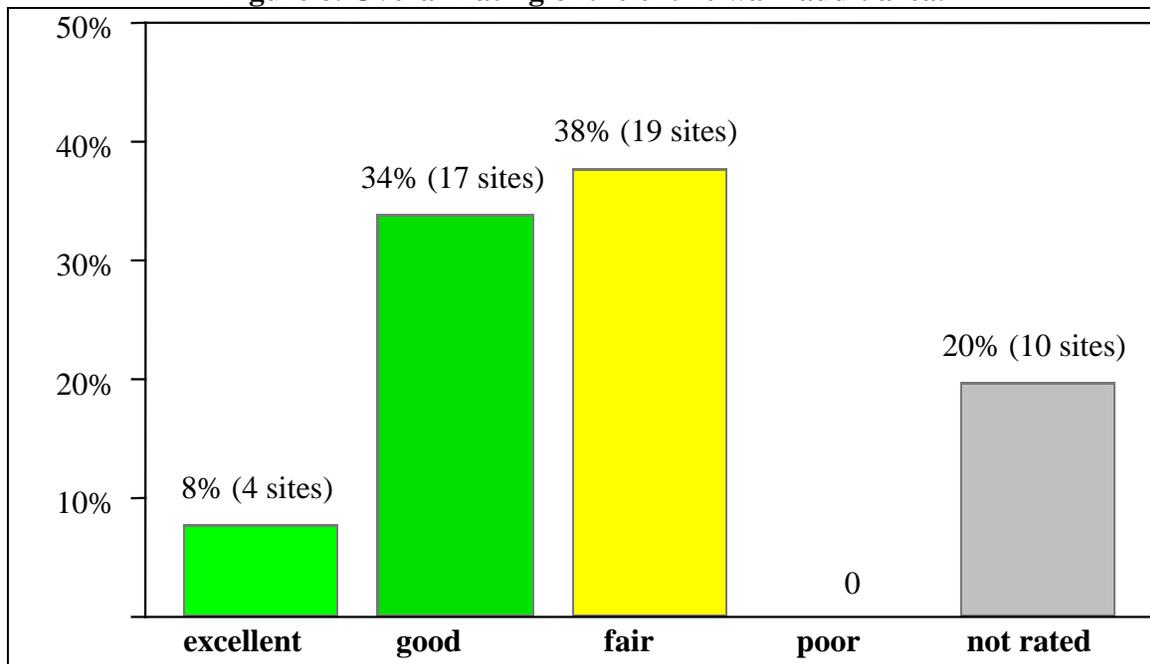
Comfort and Appeal

Most of the observations sites were rated as “good” (21, or 42%) or “fair” (11, or 22%) in terms of overall comfort and appeal. Seven (14%) were rated as “excellent” and only 1 site on Oahu was rated as “poor.” (These calculations include 10 sites, 20%, which were not rated.) The most common suggestion to increase comfort and appeal was the addition of “benches and places to rest” (13 sites, or 26%). The need for landscaping maintenance, water fountains and bathrooms, and bus shelters was noted for 10% of the sites. Graffiti and trash were noted at 10% of the sites, almost all of which were on Oahu.

Overall Rating of the Entire Walk Audit Area

None of the walk areas were described as “poor” overall when rated by auditors (Figure 8). Most of the areas were described as “good” or “fair” overall. Four sites were described as “excellent,” including 3 from Neighbor Islands (1 each on Kauai, Maui, and Hawai`i). There was no overall rating for 10 (20%) of the audit areas.

Figure 8. Overall rating of the entire walk audit area.



Summary Score of Location Issues

A summary score was computed for each of the 50 locations to determine which had the greatest need for improvements in their pedestrian environments. The score was based on 28 data items chosen from the 4 sections of crossing the street, sidewalks, safety, and comfort and appeal. (Driver behavior issues were not included, since these may not always relate to a specific area.) This score was meant to provide a rough guide in making overall comparisons between locations, and is limited by the data collection issues described in the Data Limitations and Analysis section. Although the locations with the 7 highest scores are presented below, these areas differed from many others by only a small amount.

Table 2. Locations with the highest number of issues.

Island	Neighborhood	Location	Ranking*
Oahu	Waianae	Farrington Hwy. @ Waianae High	1
Oahu	Kaneohe	Kahuhipa St. & Kawa St.	2
Oahu	Kaneohe	Kam Hwy. @ Senior Residence Kaneohe	2
Hawai`i	Hilo	Haili St. & Kam Ave.	2
Oahu	Kailua	Kuulei Rd. & Kailua Rd.	3
Oahu	Ala Moana	Keeaumoku St. & Kapiolani St.	3
Oahu	Waikiki	Ala Moana Blvd. & Hobron Ln.	3

*Based on numerical sum of issues noted from 28 survey items. Locations with the same ranking had the same score.

Figures 9 and 10 show summary score categories for each of the Neighbor Island and Oahu locations, respectively.

Figure 9. Summary scores for Neighbor Island walk audit locations.

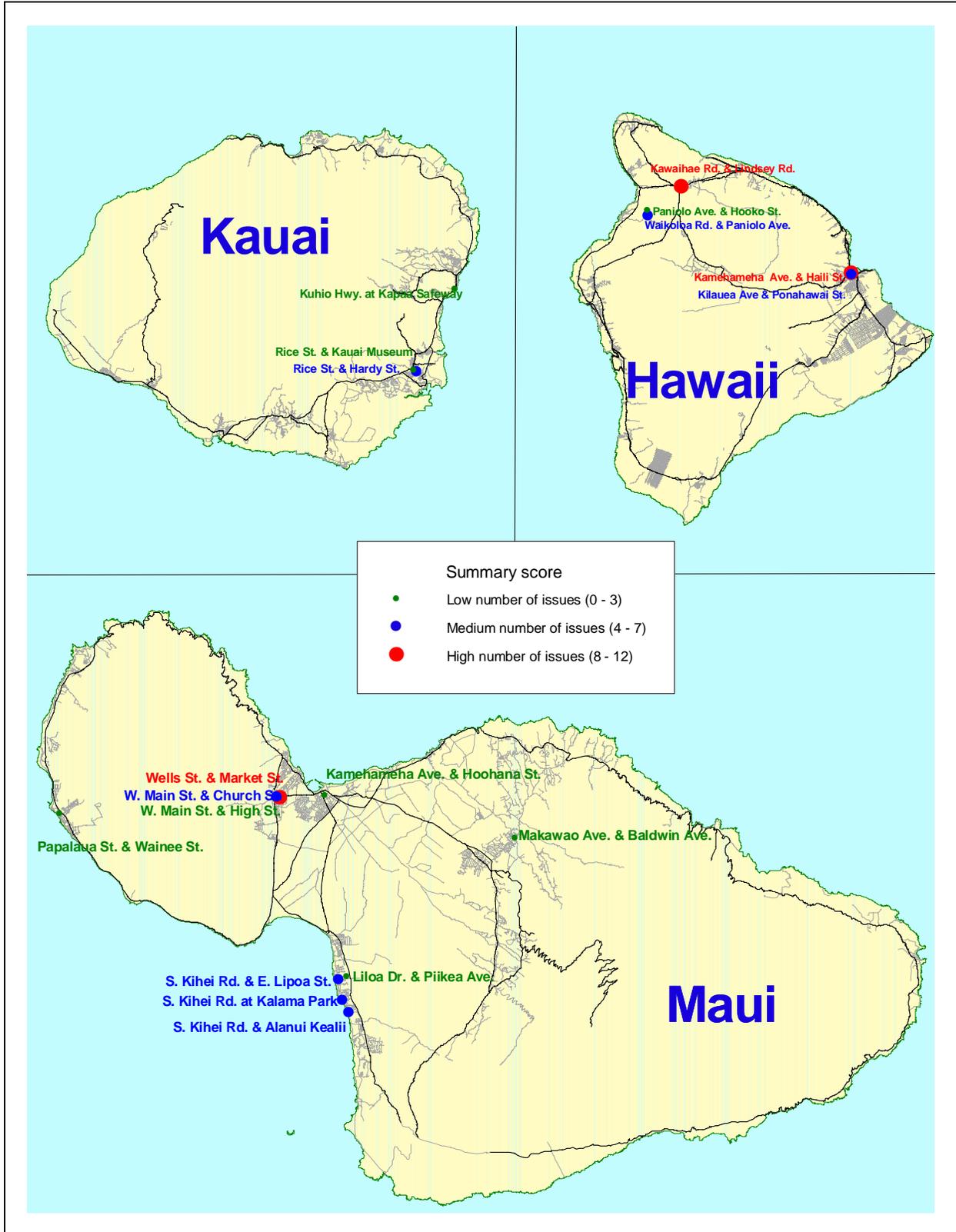
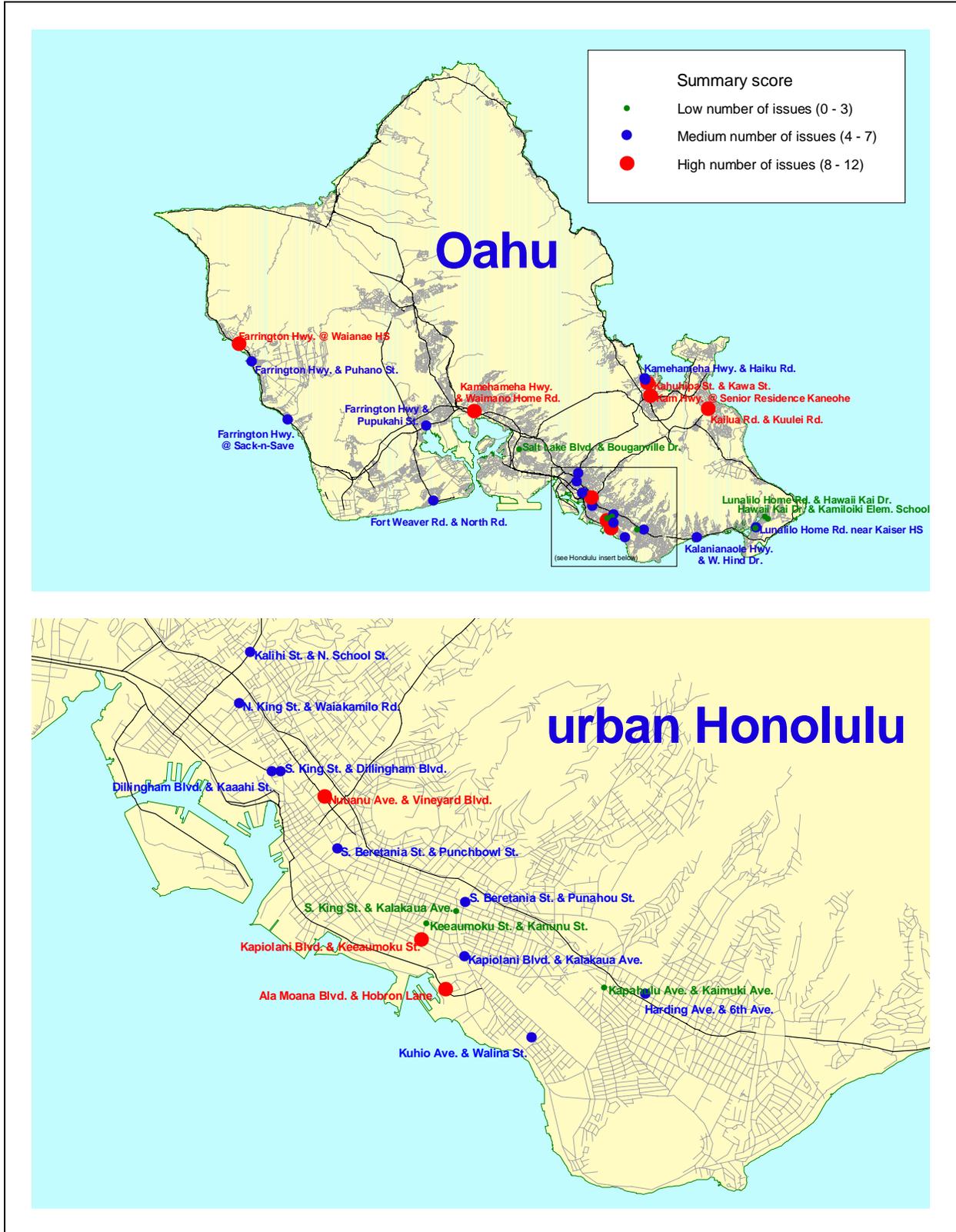


Figure 10. Summary scores for Oahu walk audit locations.



Location Table 1. Problems with Crossing the Street, by individual locations

Location	walk signal needed	signal too short for people of normal physical ability	signal too short for people of limited physical ability	crosswalk poorly marked	crosswalk blocked by parked cars or poles	cars in crosswalk with pedestrians	
	Oahu						
Ala Moana Blvd. & Hobron Ln.	x	x			x	x	
Farrington Hwy. & Puhano St.	x	x					
Farrington Hwy. & Pupukaihi St.	x	x					
Farrington Hwy. @ Sack-n-Save							
Farrington Hwy. @ Waianae High	x	x			x	x	
Fort Weaver Rd. & North Rd.	x	x					
Harding Ave. & 6th St.							
Kaaahi St. & Dillingham Blvd.						x	
Kahuhipa St. & Kawa St.	x			x	x		
Kam Hwy. & Haiiku Rd.		x	x				
Kam Hwy. & Kaneohe Bay Dr.						x	
Kam Hwy. & Waimanu Home Rd.			x	x			
Kam Hwy. @ Senior Residence Kaneohe				x	x		
Hawaii Kai Dr. @ Kamiloiki Sch.							
Kapahulu Ave. & Kaimuki Ave.							
Kapiolani Blvd. & Kalakaua Ave.		x			x		
Keeaumoku St. & Kanunu St.							
Keeaumoku St. & Kapiolani Blvd.	x	x		x		x	
N. King St. & Dillingham Blvd.			x				
N. King St. & Waiakamilo Rd.	x	x				x	
S. King St. & Kalakaua Ave.			x				
Kuhio Ave. & Walina St.	x	x				x	
Kuulei Rd. & Kailua Rd.						x	
Lunalilo Home Rd. & Hawaii Kai Dr.			x				
Lunalilo Home Rd. @ Kaiser High (1)	x	x				x	
Lunalilo Home Rd. @ Kaiser High (2)			x				
Nuuanu Ave. & Vineyard Blvd.	x	x					
Punahou St. & Beretania St.						x	
Punchbowl St. & Beretania St.							
Salt Lake Blvd. & Bougainville Dr.							
School St. & Kalihi St.	x	x		x		x	
W. Hind Dr. & Kalaniana'ole Hwy.			x				

Location Table 1. Problems with Crossing the Street, by individual locations (cont.)

Location	walk signal needed	signal too short for people of normal physical ability	signal too short for people of limited physical ability	crosswalk poorly marked	crosswalk blocked by parked cars or poles	cars in crosswalk with pedestrians	
	Hawaii						
Haili St. & Kam Ave.	x			x	x	x	
Hooko St. & Paniolo Ave.		x	x				
Mamalahoa Hwy. & Lindsey Rd.		x	x	x	x		
Ponahawai St. & Kilauea Ave.		x	x			x	
Waikoloa Rd. & Paniolo Ave.	x			x			
	Kauai						
Hardy St. & Rice St.		x	x			x	
Kapaa Kauai Village		x	x			x	
Rice St. @ Museum				x			
	Maui						
High St. & W. Main St.							
Kam Ave. & Hoohana St.							
S. Kihei Rd. & Alanui Ke Alii		x	x			x	
S. Kihei Rd. & Lipoa St.		x	x				
S. Kihei Rd. @ Kalama Park		x	x				
Liloa St. & Piikea Ave.						x	
W. Main St. & Church St.					x		
Makawao Ave. & Baldwin Ave.	x			x			
Wainee St. & Papalaua St.						x	
Wells St. & S. Market St.	x			x		x	

Location Table 2. Problems with Sidewalks, by individual locations

Location	there are no sidewalks	not continuous (segments missing)	sidewalk too narrow	sidewalk is broken or cracked	blocked with signs, poles, trees, etc.	blocked by cars, trucks, vendors
Oahu						
Ala Moana Blvd. & Hobron Ln.				x		
Farrington Hwy. & Puhano St.					x	
Farrington Hwy. & Pupukaihi St.						
Farrington Hwy. @ Sack-n-Save				x		
Farrington Hwy. @ Waianae High					x	
Fort Weaver Rd. & North Rd.						
Harding Ave. & 6th St.			x		x	x
Kaaahi St. & Dillingham Blvd.						
Kahuhipa St. & Kawa St.				x		
Kam Hwy. & Haiku Rd.		x		x		
Kam Hwy. & Kaneohe Bay Dr.						
Kam Hwy. & Waimanu Home Rd.						
Kam Hwy. @ Senior Residence Kaneohe		x		x	x	
Hawaii Kai Dr. @ Kamiloiki Sch.						
Kapahulu Ave. & Kaimuki Ave.						
Kapiolani Blvd. & Kalakaua Ave.						x
Keeaumoku St. & Kanunu St.						
Keeaumoku St. & Kapiolani Blvd.				x		
N. King St. & Dillingham Blvd.						
N. King St. & Waiakamilo Rd.					x	
S. King St. & Kalakaua Ave.						
Kuhio Ave. & Walina St.					x	x
Kuulei Rd. & Kailua Rd.					x	
Lunalilo Home Rd. & Hawaii Kai Dr.						
Lunalilo Home Rd. @ Kaiser High (1)		x				
Lunalilo Home Rd. @ Kaiser High (2)						
Nuuanu Ave. & Vineyard Blvd.				x		
Punahou St. & Beretania St.				x	x	
Punchbowl St. & Beretania St.				x		
Salt Lake Blvd. & Bougainville Dr.						
School St. & Kalihi St.						
W. Hind Dr. & Kalaniana'ole Hwy.						

Location Table 2. Problems with Sidewalks, by individual locations (cont.)

Location	there are no sidewalks	not continuous (segments missing)	sidewalk too narrow	sidewalk is broken or cracked	blocked with signs, poles, trees, etc.	blocked by cars, trucks, vendors	
	Hawaii						
Haili St. & Kam Ave.							
Hooko St. & Paniolo Ave.							
Mamalahoa Hwy. & Lindsey Rd.			x		x		
Ponahawai St. & Kilauea Ave.							
Waikoloa Rd. & Paniolo Ave.			x				
	Kauai						
Hardy St. & Rice St.			x				
Kapaa Kauai Village	x						
Rice St. @ Museum							
	Maui						
High St. & W. Main St.							
Kam Ave. & Hoozana St.							
S. Kihei Rd. & Alanui Ke Alii							
S. Kihei Rd. & Lipoa St.					x		
S. Kihei Rd. @ Kalama Park					x		
Liloa St. & Piikea Ave.							
W. Main St. & Church St.		x			x		
Makawao Ave. & Baldwin Ave.	x						
Wainee St. & Papalaua St.	x						
Wells St. & S. Market St.			x	x	x		

Location Table 3. Problems with Driver Behavior, by individual locations

Location	Oahu					
	do not stop at stop signs	do not obey traffic signals	seem to be speeding	do not yield to pedestrians	stop in the crosswalk	do not look when backing out
Ala Moana Blvd. & Hobron Ln.	x			x	x	
Farrington Hwy. & Puhano St.	x		x	x		
Farrington Hwy. & Pupukaihi St.	x	x	x			
Farrington Hwy. @ Sack-n-Save			x			
Farrington Hwy. @ Waianae High		x	x		x	
Fort Weaver Rd. & North Rd.		x		x	x	
Harding Ave. & 6th St.			x	x	x	
Kaaahi St. & Dillingham Blvd.		x	x	x	x	
Kahuhipa St. & Kawa St.	x		x	x	x	
Kam Hwy. & Haiku Rd.	x	x	x	x		
Kam Hwy. & Kaneohe Bay Dr.			x	x	x	x
Kam Hwy. & Waimanu Home Rd.						
Kam Hwy. @ Senior Residence Kaneohe	x		x			
Hawaii Kai Dr. @ Kamiloiki Sch.	x		x		x	
Kapahulu Ave. & Kaimuki Ave.		x		x		
Kapiolani Blvd. & Kalakaua Ave.			x	x	x	
Keeaumoku St. & Kanunu St.					x	
Keeaumoku St. & Kapiolani Blvd.	x		x	x	x	
N. King St. & Dillingham Blvd.		x	x		x	
N. King St. & Waiakamilo Rd.		x	x	x	x	
S. King St. & Kalakaua Ave.			x		x	
Kuhio Ave. & Walina St.	x			x		
Kuulei Rd. & Kailua Rd.		x		x	x	
Lunalilo Home Rd. & Hawaii Kai Dr.	x	x				
Lunalilo Home Rd. @ Kaiser High (1)	x		x	x	x	
Lunalilo Home Rd. @ Kaiser High (2)			x			
Nuuanu Ave. & Vineyard Blvd.		x				
Punahou St. & Beretania St.		x	x	x	x	
Punchbowl St. & Beretania St.	x	x	x		x	
Salt Lake Blvd. & Bougainville Dr.			x			
School St. & Kalihi St.						
W. Hind Dr. & Kalaniana'ole Hwy.	x	x	x	x	x	

Location Table 3. Problems with Driver Behavior, by individual locations (cont.)

Location	<i>do not stop at stop signs</i>	<i>do not obey traffic signals</i>	<i>seem to be speeding</i>	<i>do not yield to pedestrians</i>	<i>stop in the crosswalk</i>	<i>do not look when backing out</i>	
	Hawaii						
Haili St. & Kam Ave.	x			x	x		
Hooko St. & Paniolo Ave.							
Mamalahoa Hwy. & Lindsey Rd.	x	x	x				
Ponahawai St. & Kilauea Ave.			x		x		
Waikoloa Rd. & Paniolo Ave.	x	x	x		x		
	Kauai						
Hardy St. & Rice St.				x	x		
Kapaa Kauai Village							
Rice St. @ Museum				x	x		
	Maui						
High St. & W. Main St.	x		x	x			
Kam Ave. & Hoohana St.		x	x	x			
S. Kihei Rd. & Alanui Ke Alii							
S. Kihei Rd. & Lipoa St.							
S. Kihei Rd. @ Kalama Park							
Liloa St. & Piikea Ave.							
W. Main St. & Church St.			x	x	x		
Makawao Ave. & Baldwin Ave.	x			x	x		
Wainee St. & Papalaua St.				x			
Wells St. & S. Market St.			x	x	x		

Location Table 4. Problems with Safety, by individual locations

Location	Oahu					
	<i>cars speeds are too fast</i>	<i>too much traffic</i>	<i>unsafe driver behavior</i>	<i>loiterers/suspicious activity</i>	<i>unleashed dogs</i>	<i>unclear signs or directions</i>
Ala Moana Blvd. & Hobron Ln.	x		x			
Farrington Hwy. & Puhano St.	x	x	x			
Farrington Hwy. & Pupukaihi St.	x		x			
Farrington Hwy. @ Sack-n-Save	x	x				x
Farrington Hwy. @ Waianae High	x		x			x
Fort Weaver Rd. & North Rd.	x				x	
Harding Ave. & 6th St.		x	x			
Kaaahi St. & Dillingham Blvd.	x	x	x			
Kahuhipa St. & Kawa St.	x	x	x			
Kam Hwy. & Haiku Rd.						
Kam Hwy. & Kaneohe Bay Dr.	x	x	x			
Kam Hwy. & Waimanu Home Rd.	x	x				
Kam Hwy. @ Senior Residence Kaneohe	x	x	x			
Hawaii Kai Dr. @ Kamiloiki Sch.						
Kapahulu Ave. & Kaimuki Ave.						
Kapiolani Blvd. & Kalakaua Ave.	x	x	x			x
Keeaumoku St. & Kanunu St.						
Keeaumoku St. & Kapiolani Blvd.	x	x	x			
N. King St. & Dillingham Blvd.	x	x				
N. King St. & Waiakamilo Rd.	x		x			
S. King St. & Kalakaua Ave.	x					
Kuhio Ave. & Walina St.	x					
Kuulei Rd. & Kailua Rd.	x	x	x	x		
Lunalilo Home Rd. & Hawaii Kai Dr.						
Lunalilo Home Rd. @ Kaiser High (1)	x	x	x			
Lunalilo Home Rd. @ Kaiser High (2)						
Nuuanu Ave. & Vineyard Blvd.						
Punahou St. & Beretania St.	x					
Punchbowl St. & Beretania St.	x					x
Salt Lake Blvd. & Bougainville Dr.	x					
School St. & Kalihi St.						
W. Hind Dr. & Kalaniana'ole Hwy.	x	x	x			

Location Table 4. Problems with Safety, by individual locations (cont.)

Location	<i>cars speeds are too fast</i>	<i>too much traffic</i>	<i>unsafe driver behavior</i>	<i>loiterers/suspicious activity</i>	<i>unleashed dogs</i>	<i>unclear signs or directions</i>		
	Hawaii							
Haili St. & Kam Ave.	x	x	x					
Hooko St. & Paniolo Ave.								
Mamalahoa Hwy. & Lindsey Rd.	x		x					
Ponahawai St. & Kilauea Ave.								
Waikoloa Rd. & Paniolo Ave.	x	x	x			x		
	Kauai							
Hardy St. & Rice St.	x							
Kapaa Kauai Village								
Rice St. @ Museum		x						
	Maui							
High St. & W. Main St.	x		x					
Kam Ave. & Hoozana St.								
S. Kihei Rd. & Alanui Ke Alii								
S. Kihei Rd. & Lipoa St.								
S. Kihei Rd. @ Kalama Park								
Liloa St. & Piikea Ave.								
W. Main St. & Church St.		x						
Makawao Ave. & Baldwin Ave.			x					
Wainee St. & Papalaua St.		x						
Wells St. & S. Market St.		x	x					

Location Table 5. Problems with Comfort and Appeal, by individual locations

Location	needs shade trees	needs benches and places to rest	needs landscaping maintenance	needs bathrooms and water fountains	has graffiti/ run-down buildings	has trash on the route
Oahu						
Ala Moana Blvd. & Hobron Ln.				x		
Farrington Hwy. & Puhano St.						
Farrington Hwy. & Pupukaihi St.						
Farrington Hwy. @ Sack-n-Save						x
Farrington Hwy. @ Waianae High	x	x			x	
Fort Weaver Rd. & North Rd.	x	x				
Harding Ave. & 6th St.						
Kaaahi St. & Dillingham Blvd.				x		
Kahuhipa St. & Kawa St.			x		x	
Kam Hwy. & Haiku Rd.						
Kam Hwy. & Kaneohe Bay Dr.						
Kam Hwy. & Waimanu Home Rd.			x			x
Kam Hwy. @ Senior Residence Kaneohe					x	
Hawaii Kai Dr. @ Kamiloiki Sch.						
Kapahulu Ave. & Kaimuki Ave.						
Kapiolani Blvd. & Kalakaua Ave.						
Keeaumoku St. & Kanunu St.		x				
Keeaumoku St. & Kapiolani Blvd.		x				
N. King St. & Dillingham Blvd.				x		x
N. King St. & Waiakamilo Rd.			x			x
S. King St. & Kalakaua Ave.						
Kuhio Ave. & Walina St.			x			
Kuulei Rd. & Kailua Rd.	x	x		x	x	
Lunalilo Home Rd. & Hawaii Kai Dr.						
Lunalilo Home Rd. @ Kaiser High (1)						
Lunalilo Home Rd. @ Kaiser High (2)						
Nuuanu Ave. & Vineyard Blvd.		x	x			
Punahou St. & Beretania St.						
Punchbowl St. & Beretania St.						
Salt Lake Blvd. & Bougainville Dr.						
School St. & Kalihi St.						
W. Hind Dr. & Kalaniana'ole Hwy.		x				

Location Table 5. Problems with Comfort and Appeal, by individual locations (cont.)

Location	needs shade trees	needs benches and places to rest	needs landscaping maintenance	needs bathrooms and water fountains	has graffiti/ run-down buildings	has trash on the route		
	Hawaii							
Haili St. & Kam Ave.	x			x				
Hooko St. & Paniolo Ave.								
Mamalahoa Hwy. & Lindsey Rd.					x			
Ponahawai St. & Kilauea Ave.								
Waikoloa Rd. & Paniolo Ave.								
	Kauai							
Hardy St. & Rice St.	x							
Kapaa Kauai Village								
Rice St. @ Museum								
	Maui							
High St. & W. Main St.								
Kam Ave. & Hoozana St.								
S. Kihei Rd. & Alanui Ke Alii	x							
S. Kihei Rd. & Lipoa St.	x							
S. Kihei Rd. @ Kalama Park	x							
Liloa St. & Piikea Ave.	x							
W. Main St. & Church St.								
Makawao Ave. & Baldwin Ave.								
Wainee St. & Papalaua St.	x							
Wells St. & S. Market St.								

Location Table 6. Suggestions for structural changes, by individual locations

Location (Not listed if no suggestion)	Suggestion(s)
Oahu	
Ala Moana Blvd. & Hobron Ln.	Add curbcuts on all 4 corners
	Add sidewalk to continue past Ilikai Hotel
Farrington Hwy. & Puhano St.	Add sidewalk on makai side
Farrington Hwy. & Pupukaihi St.	Add handicap ramp between 2 bus stops
	Add crosswalk on Farrington mauka to makai
Harding Ave. & 6th St.	Add left turn arrow
Kahuhipa St. & Kawa St.	Add marked crosswalk for wheelchair ramp
	Clean up graffiti
Kam Hwy. & Haiku Rd.	Fix walk signal at Kaneohe Bay shopping center
Kam Hwy. & Waimanu Home Rd.	Fix broken signal
Kam Hwy. @ Senior Residence Kaneohe	Relocate crosswalk closer to senior residence
Kapehulu Ave. & Kaimuki Ave.	Extend time for left turn arrow
Kapiolani Blvd. & Kalakaua Ave.	Add digital and audible crossing signals
	Address unmarked crosswalk going ewa; merging drivers aren't aware of it
	Add another bus shelter
Keeaumoku St. & Kanunu St.	Need a crossing sign from Ross to Walmart
N. King St. & Dillingham Blvd.	Fix walk signal at Kaneohe Bay shopping center
	Address blind corner, drivers can't see pedestrians when turning right from Liliha to King
Salt Lake Blvd. & Bougainville Dr.	Add median, too many lanes to cross

Location Table 6. Suggestions for structural changes, by individual locations (cont.)

Location (Not listed if no suggestion)	Suggestion(s)
Hawaii	
Haili St. & Kam Ave.	Add another crosswalk
Mamalahoa Hwy. & Lindsey Rd.	Add another crosswalk, too far between crosswalks at Anuenue playground and Parker school
Maui	
S. Kihei Rd. & Alanui Ke Alii	Bus stops should be better designated
Makawao Ave. & Baldwin Ave.	Add traffic signal at 4 way stop
Wainee St. & Papalaua St.	Fix traffic signal at McDonald's side of Papalaua and Wainee



APPENDIX:
National Day of Service
WALKABLE NEIGHBORHOODS PEDESTRIAN SAFETY PROJECT
WALK AUDIT FORM

Date & Time: _____ WalkAudit Area: _____
 Your Name: _____ Are you an AARP Member? Yes No

Team Members:

Activities:

Feel free to divide these activities among your team members - Or do one activity at a time using the whole team. If team members are completing individual forms, spend time at the end coming to a group consensus and complete one form for the whole team.

- 1) **Crosswalk Section 1 (pages 2,3):** Observe 2 crosswalks (2 separate pages are provided— one for each crosswalk). It’s up to you to pick the 2 crosswalks as long as they cover both streets that make up the intersection. Complete crosswalk observation and signal timing for each crosswalk.
 - a. **Crosswalk observation** for 20 minutes – Count how many people are using the crosswalk. (See table on next page.) Who else is in the crosswalk? Are people following the rules of the road?
 - b. **Signal:** If there is a walk signal, time the signal. If it seems safe, send individual team members across, starting with the most mobile or fit. Note whether people with different abilities all have enough time. If some of your team members feel unsafe crossing, do not have them cross. Note on the sheet that they could not cross.
- 2) **Sidewalks, Driver Behavior, Safety, and Comfort and Appeal Sections 2-10 (pages 4-6):** Complete observations for each section.
- 3) **Distribute the “Walk Wise Hawaii” literature** to people who pass by.
- 4) **Come to the debriefing party** at the Ala Moana Hotel at 3:30 p.m. in the Garden Lanai Room to share your experience.

AARP WALK AUDIT FORM

1st Cross walk Observed: across _____ (street)

DIRECTIONS: Follow the walk audit map. Place a \checkmark next to any items that are a problem for walkers. Think about what might be a problem for a child, senior or disabled person. Be sure to record the location of each problem (nearest intersection, landmark, side of street).

1. Crossing the Street

Where is this a Problem? Specify the location.

- Crossing doesn't have a pedestrian signal or audible signal. _____
- Pedestrian signal doesn't give people with normal abilities time to cross. Time signal: _____(seconds) _____
- Pedestrian signal doesn't give people with limited abilities time to cross. _____
- Traffic signal makes pedestrians wait too long before crossing. _____
- Need a traffic signal. _____
- Push to walk signal available _____
- Crosswalk is not marked or poorly marked. _____
- Have to walk too far (>300 ft) for a safe place to cross the street. _____
- Road is too wide to cross safely. _____
- Is there a median on streets with 2+ lanes? _____
- Parked cars on the street or utility poles are blocking the view of traffic. _____
- Cars are in the crosswalk with pedestrians _____
- Other (please specify) _____

Overall rating of street crossings in the audit area: Excellent Good Fair Poor

Observe the crosswalk for 20 minutes

Start Time: _____ **End Time:** _____

Who is using the crosswalk?	Make hatch marks to indicate number of people/things observed
Average people with normal abilities	total #:
People using assistive devices (canes, wheelchairs, walkers)	total #:
People with young children or strollers	total #:
People crossing against signal	total #:
Cyclists	total #:
Skateboarders	total #:
Scooters	total #:
Other	total #:

AARP WALK AUDIT FORM

2nd Cross walk Observed: across _____ (street)

DIRECTIONS: Follow the walk audit map. Place a \surd next to any items that are a problem for walkers. Think about what might be a problem for a child, senior or disabled person. Be sure to record the location of each problem (nearest intersection, landmark, side of street).

1. Crossing the Street

Where is this a Problem? Specify the location.

- Crossing doesn't have a pedestrian signal or audible signal.
- Pedestrian signal doesn't give people with normal abilities time to cross. Time signal: ____ (seconds)
- Pedestrian signal doesn't give people with limited abilities time to cross.
- Traffic signal makes pedestrians wait too long before crossing.
- Need a traffic signal.
- Push to walk signal available
- Crosswalk is not marked or poorly marked.
- Have to walk too far (>300 ft) for a safe place to cross the street.
- Road is too wide to cross safely.
- Is there a median on streets with 2+ lanes?
- Parked cars on the street or utility poles are blocking the view of traffic.
- Cars are in the crosswalk with pedestrians
- Other (please specify) _____

Overall rating of street crossings in the audit area: Excellent Good Fair Poor

Observe the crosswalk for 20 minutes

Start Time: _____ End Time: _____

Who is using the crosswalk?	Make hatch marks to indicate number of people/things observed
Average people with normal abilities	total #:
People using assistive devices (canes, wheelchairs, walkers)	total #:
People with young children or strollers	total #:
People crossing against signal	total #:
Cyclists	total #:
Skateboarders	total #:
Scooters	total #:
Other	total #:

2. Sidewalks

Where is this a Problem? Specify the location.

- There are no sidewalks
- There are sidewalks, but they are not Continuous (segments are missing).
- Sidewalk is not wide enough for two people to walk together side-by-side (5 ft).
- Sidewalk is broken or cracked.
- There isn't a parkway next to sidewalk.
- Sidewalks are interrupted by driveways.
- No/Misplaced ramps (curb cuts) for wheelchairs, strollers and wagons.
- Curb cuts are textured or marked for those With visual impairments.
- Sidewalk is blocked with poles, signs, shrubs, dumpsters, low hanging trees, etc.
- Cars, trucks, vendors are blocking the sidewalk.
- Other (please specify)

Overall rating of sidewalks in the audit area: Excellent Good Fair Poor

3. Driver Behavior

Where is this a Problem? Specify the location.

- Drivers do not stop at stop signs.
- Drivers do not obey traffic signals.
- Drivers seem to be speeding.
- Drivers do not yield to pedestrians.
- Drivers stop in the crosswalk.
- Drivers don't look when backing out of driveways.
- Other (please specify)

Overall rating of driver behavior in the audit area: Excellent Good Fair Poor

AARP WALK AUDIT FORM

4. Safety

Where is this a Problem? Specify the location.

Don't feel safe walking here because:

- Car speeds are too fast.
- Too much traffic.
- Street or crossing doesn't have enough lighting.
- Of driver behavior.
- Of loiterers or suspicious/criminal activity.
- Unleashed dogs
- Unclear signs or directions for drivers or pedestrians
- Other (please specify)

Overall rating of safety in the audit area: Excellent Good Fair Poor

5. Comfort and Appeal

Where is this a Problem? Specify the location.

- Need shade trees.
- Need grass, flowers, landscaping.
- Need benches and places to rest.
- Grass/landscaping needs maintenance.
- Need water fountains and bathrooms.
- Bus stop doesn't have a shelter.
- Bus stop doesn't have adequate lighting.
- There is graffiti or vacant/run-down buildings.
- There is trash on the route.
- Other (please specify)

Overall rating of comfort/appeal in the audit area: Excellent Good Fair Poor

WALK AUDIT FORM

6. Overall Rating of the Entire Walk Audit Area: Excellent Good Fair Poor

7. Given what you have observed, what safety advice would you like to tell pedestrians about, which you think would make it safer for them to cross the street?

8. What are the most important improvements needed in this area to get more seniors and other community members walking?

9. What would you like to say to drivers in this area about how they could make it safer for pedestrians?

10. How many “Walk Wise” Hawaii Brochures did you distribute? _____

Thank You for Taking the Time to Help!